

Discovery of *Eccoptocera palmicola* (Meyrick) (Tortricidae, Olethreutinae) from Okinawa, JapanYoshitsugu NASU¹⁾ and Satoru TOMINAGA²⁾¹⁾ 153-2, Nakado, Hashimoto, Wakayama, 648-0023 Japan²⁾ 251-3, Kochinda, Yaese, Okinawa, 901-0401 Japan

Abstract *Eccoptocera palmicola* (Meyrick), feeding on *Rhodomyrtus tomentosa* (Aiton) Hassk., was discovered in Okinawa, Japan. The adult, genitalia and immature stages are illustrated including, for the first time, the female genitalia.

Key words *Eccoptocera palmicola*, genitalia, new record, *Rhodomyrtus tomentosa*.

One of the authors Tominaga has surveyed the immature stages of moths of Okinawa, Japan. Recently he discovered unfamiliar tortricid larvae feeding on *Rhodomyrtus tomentosa* from Okinawa-jima Island. As a result of examining the moth, we concluded that it is *Eccoptocera palmicola* (Meyrick, 1912) hitherto unrecorded from Japan. In the following lines we record the species as new to the moth fauna of Japan, with illustrations of the adult, genitalia and immature stages.

Eccoptocera palmicola (Meyrick) (Figs 1-13)

Hermenias palmicola Meyrick, 1912: 853.

Clarke, 1958: 424, pl. 211, figs 3, 3a (adult, ♂ genitalia).

Eccoptocera palmicola; Horak, 2006: 378.

Diagnosis. Adult (Figs 1-3). Sexual dimorphism is not pronounced. This is a small-sized olethreutine moth with whitish gray ground color of the forewing (wing expanse 9-11 mm) and characterized by the basal notch of male antenna (Fig. 4), slender costal fold in male (Figs 1, 5), dark brownish gray costa and whitish gray ocelloid patch including three black dashes, and dorsal fold of male hindwing including long scale pencil from base (Fig. 6). The male genitalia are characterized by the small uncus, vestigial socius, slender valva, and cucullus with a prominent thorn ventrally (Fig. 8). The female genitalia are characterized by the enlarged papillae anales, ductus bursae almost wholly sclerotized, posterior wall of corpus bursae partly sclerotized, and two horn-like signa (Fig. 9).

The moth is similar to *Strepsicrates semicanella* (Walker, 1886) but distinguishable by its small size (13-17 mm in *S. semicanella*), whitish gray ground color of forewing, vestigial socius, slender valva and two horn-like signa (for the morphology of *S. semicanella* see Nasu *et al.*, 2004).

Mature larva (Figs 11, 12). Length about 10 mm.

Head and prothoracic shield brown; body pale yellow, becoming darkish before pupating (Fig. 12). The larva of *Strepsicrates semicanella* also spins up the leaves of *Rhodomyrtus tomentosa* in Okinawa-jima Island, but is distinguishable by its larger body (length 12-14 mm) and dark greenish brown color (Nasu *et al.*, 2004).

Pupa (Fig. 13). Length about 6 mm. Body pale brown; both sides of anus with two pairs of hooked setae; abdominal segment 10 with three pairs of hooked setae.

Distribution. Sri Lanka, Japan (Okinawa-jima Island).

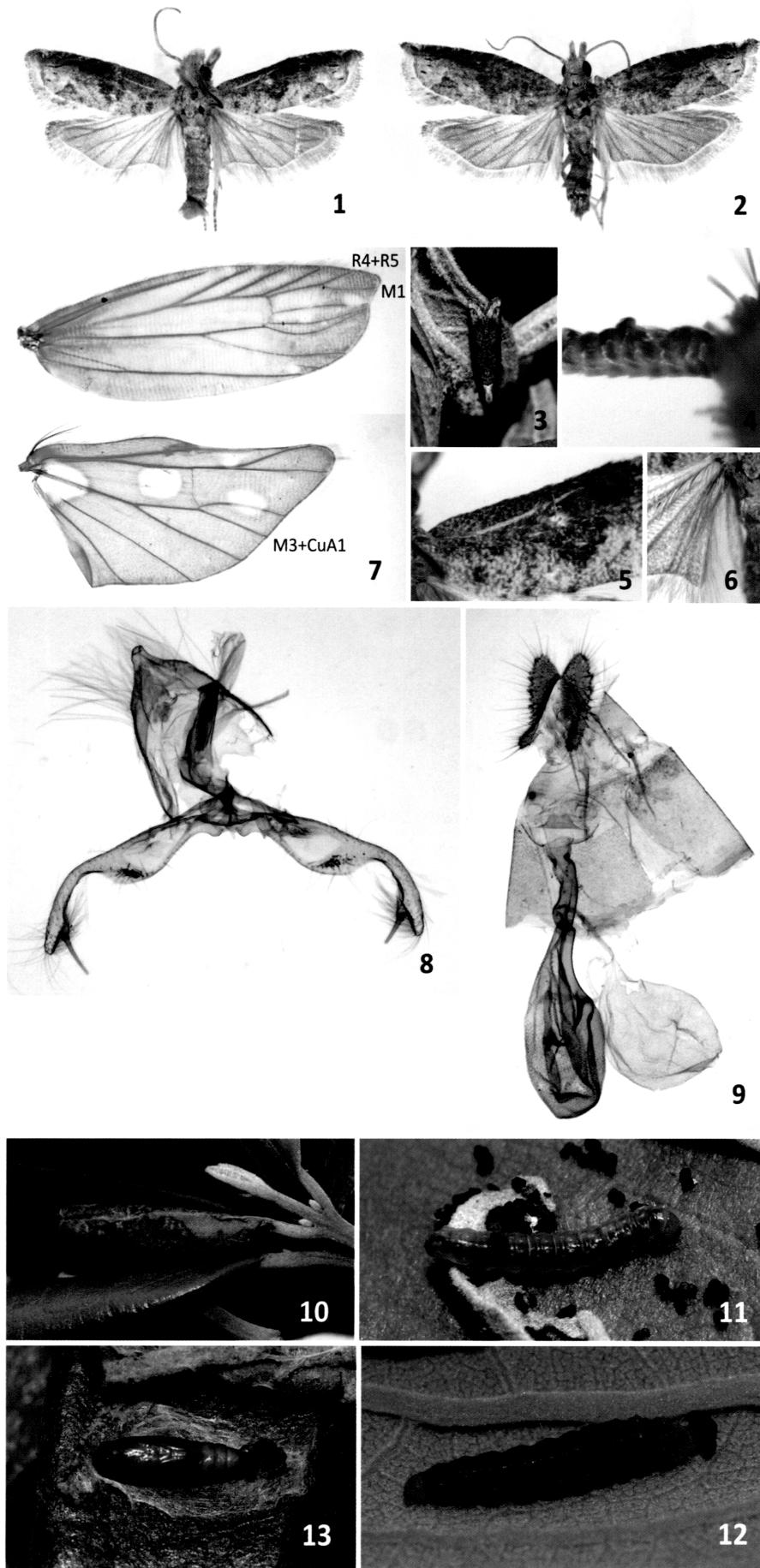
Host-plant. Myrtaceae: *Rhodomyrtus tomentosa* (Aiton) Hassk. New record.

Biology. The larvae feed on the young leaves, spinning young leaves or folding leaves in June, September and October in Okinawa-jima Island (Fig. 10). Pupation takes place in a cocoon spun up within leaves in the rearing case (Fig. 13).

Material examined. JAPAN. Okinawa-jima Island: Uruma-shi, Kurashiki-damu, 1♂ 1♀, emerged 4-6. x. 2007 (S. Tominaga leg.); Yomitani-son, Zakimi, 3♀, emerged 5-10. vii. 2013 (Y. Nasu leg.), 2♀, emerged 19-26. ix. 2013 (Y. Nasu leg.), 1♂ 2♀, emerged 14-18. xi. 2013 (Y. Nasu leg.). All the specimens are reared from larvae feeding on *Rhodomyrtus tomentosa* and preserved in the collection of Nasu.

Remarks. The moth is identical with the original description of Meyrick (1912) and the photographs of adult and ♂ genitalia by Clarke (1958).

The genus *Eccoptocera* Walsingham, 1907 (type species: *Steganoptyla foetorivorans* Butler, 1881) is distributed in Hawaii, Guam, Sri Lanka, Japan (Okinawa-jima Island) and Australia (Queensland), with six described species (Horak, 2006) and nine undescribed ones in Hawaii (Zimmerman, 1978). The larvae feed on



Figs 1-9. Adult of *Eccoptocera palmicola*. 1-3: adult (1: male, 2: female, 3: resting posture). 4: antennal notch in male. 5: costal fold in male forewing. 6: anal fold in male hindwing. 7: wing venation (anal region of hindwing folded). 8: male genitalia. 9: female genitalia.

Figs 10-13. Immature stages of *Eccoptocera palmicola*. 10: folded leaves of *Rhodomyrtus tomentosa* by larva. 11: mature larva. 12: larva before pupating. 13: pupa.

Myrtaceae, Araliaceae and Ericaceae (Clarke, 1976; Zimmerman, 1978).

The monophyly of *Eccoptocera* is based on the characteristic uncus, the vestigial socius (Fig. 8) and the reduced venation in both fore- and hindwing (Fig. 7) (Horak, 2006). Horak (2006) guessed that veins R4 and R5 of the forewing are fused into a single vein, which is stalked with M1, and veins M3 and CuA1 of the hindwing are fused into a single vein based on comparative examinations of related genera. According to Horak (2006), the genus is closely related to the genera, *Spilonota* Stephens, 1829, *Strepsicrates* Meyrick, 1881, *Holocola* Meyrick, 1881 and *Hermenias* Meyrick, 1911, because of the following apomorphies: antennal notch in male (Fig. 4), dorsal fold in male hindwing (Fig. 6), funnel-shaped sterigma usually fused with 7th sternite (Fig. 9), tendency for signa to be reduced and lost, and bursa to become strongly spinulose.

Acknowledgement

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摘要

テンニンカヒメハマキ（新称）（ハマキガ科, ヒメハマキガ亜科）の沖縄からの発見（那須義次・富永 智）

最近、著者の富永が沖縄島でテンニンカ（フトモモ科）の新葉を綴ったりあるいは葉を巻いたりしている見慣れない幼虫を採集した。羽化標本を検討したところ、日本新記録のテンニンカヒメハマキ（新称）*Eccoptocera palmicola* (Meyrick, 1912) であることがわかった。本種は、スリランカから記載された種で、それ以外からの初めて記録となる。また寄主植物を明らかにし、♀交尾器を図示した。

本種は前翅開張が9-11 mmの小型のヒメハマキガで、♂触角の基部は浅く凹む。前翅は細長く、♂は細長い前縁ひだ (costal fold)をもつ。前翅の地色は白灰色で、前縁部は褐色がかる。肛上紋は白灰色で、中に3本の黒色短線を有する。♂後翅の内縁は伸長し、内縁ひだ (anal fold)をもつ。

本種はバンジロウヒメハキ*Strepsicrates semicanella* (Walker, 1886)に類似するが、より小さいこと、前翅の地色がより白灰色であること、♂交尾器のソキウスが痕跡的であること、細長いバルバをもつこと、♀交尾器のパピラ・アナリスが大きいこと、コルプス・ブルサエの後方の壁が硬化すること、2個の角状のシグナをもつことで識別できる。バンジロウヒメハマキもテンニンカを摂食するが、本種の終齢幼虫は長さ12-14 mmと大きく、体色も暗緑褐色であることで、テンニンカヒメハマキと区別できる。

*Eccoptocera*属はハワイ、グアム、スリランカ、日本（沖縄島）、オーストラリア（クイーンズランド）に分布し、6種が知られるが、ハワイには未記載種が9種いるという。本属の幼虫はフトモモ科、ウコギ科およびツツジ科植物を摂食するとされる。本属は、特徴的なウンクス、痕跡的なソキウスおよび前後翅とも翅脈が減少することで単系統性が支持されており、*Spilonota*, *Strepsicrates*, *Holocola*および*Hermenias*属に近縁であるとされる。

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